University of Maryland, College Park

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Higher Education
Member since August 2009

MANAGEMENT AND LEADERSHIP

☒ **Environmental Team**

The University has established a 16-member University Sustainability Council comprised of senior administrators, faculty, and students to advise the President, the Office of Sustainability, and the campus community about issues related to the integration of sustainability into the operations; the cost benefit of carbon reducing expenditures for effectiveness in meeting the Presidents Climate Commitment; and policy activities of the University of Maryland. The Council will meet quarterly or more frequently as necessary. The University also has a dedicated Department of Environmental Safety responsible for managing environmental compliance and risk, and an Office of Sustainability responsible for managing the campus sustainability programs.

☒ **Environmental Policy Statement**

May 2008 Strategic Plan:

"We will be a campus that is a model for the sustainability of its environment, and we will be a university that seeks solutions to the world's most challenging and vexing problems." (Page 3)

"The University of Maryland will be widely recognized as a national model for a Green University. In ten years time the University will have made substantial progress towards addressing energy issues. It will have slashed energy use, expanded green spaces, dramatically reduced its carbon footprint, and built and retrofitted buildings to strict environmental standards. The University will complement these concrete actions with its teaching, research, and development efforts in energy science and policy, smart growth, environmental mapping, sustainable agriculture, and other fields. As the third largest "city" in the State, the University will have a significant impact as a leader and showcase for environmental sustainability." (Page 36)

2001-2020 Facilities Master Plan established four principles to guide future development:

1. Plan the built and natural environment in a way that preserves the beauty of the campus and protects the environment;
2. Reduce the number of automobiles on campus and eliminate vehicular congestion to the extent possible while promoting unimpeded pedestrian movement across the campus;
3. Reinforce the campus' role as a good neighbor in the larger community by the careful development of sites on the campus periphery or in outlying areas that link to the community; and
4. Preserve the architectural heritage of the campus and enhance it through open spaces, gathering places, vistas of green lawn and trees, and groupings of buildings that promote a sense of community.

☒ **Annual Goals**

As a charter signatory of the American College and University Presidents Climate Commitment, President Mote pledged that the University would reduce campus greenhouse gas emissions and achieve carbon neutrality. The campus conducted a Greenhouse Gas Inventory to determine the baseline from which progress will be measured. A 50-member Climate Action Plan Work Group comprised of faculty, staff, and students drafted a Climate Action Plan for how the campus will reach carbon neutrality by 2050. The plan includes 40+ strategies and interim milestones to reach this ambitious goal. The campus will continue to conduct greenhouse gas inventories and report on its progress against the plan in alternating years.

☒ **Environmentally Preferable Procurement**

The campus has developed an Environmentally Preferable Procurement Policy to guide procurement decisions. The policy notes: "The University of Maryland, College Park will procure all supplies, services, maintenance, construction and architect-engineer services in a manner consistent with the promotion of environmental sustainability and, in particular, promoting the reduction of carbon emissions as envisioned by the University's endorsement of the American College and University Presidents Climate Commitment. Consideration of the environmental impact of products and services must be an integral part of the procurement process and should be weighed along with price and other factors when making procurement decisions.

☒ **Environmental Restoration or Community Environmental Projects**

The Engaged University, part of the Maryland Cooperative Extension, combines theory and action to link the College Park campus with surrounding communities. Located in nearby Riverdale, the Engaged University uses the core principles of sustainability (economic prosperity, environmental well-being, and social equity) to improve the quality of life of Riverdale residents and the educational experience of the students who get involved in its dynamic programs, including the Master Peace Community Garden, the Renaissance Community Youth Bike Shop, and the Green Guild Biodiesel Cooperative.

In the spring of 2009, 24 students from the University of Maryland's chapter of Engineers Without Borders partnered with local agencies to develop a natural system that could alleviate flooding problems for the community of Edmonston and decrease the amounts of pollutants flowing into the Anacostia River Watershed by building a bioretention system at a local park. "This is a service project in which UMD students have used classroom knowledge to be good citizens in their own backyard," said Kevin Calabro, Keystone instructor at the Clark School of Engineering, who served as a faculty advisor for the project. "The project utilizes green engineering solutions to improve the environment, an emphasis of the university."

The University also conducts annual stream cleanups in campus creeks.

WASTE

☒ **Recycling**

The waste diversion rate for 2008 was 41.27 percent. For Maryland Recycling Act (MRA) Materials, this amounted to:

Fluorescent Light Tubes - 20.17 tons
Grass, Leaves, Brush, Branches and Mixed Yard Trimmings - 470.29 tons
Wood Materials - 324.58 tons
Wooden Pallets - 136.32 tons
Mixed Paper - 1432.27 tons
Shredded Paper - 130.88 tons
Paper Products - 15.40 tons
Commingled Containers - 348.62 tons
Laser Toner Cartridges - 5.51 tons
Lead Acid (Auto) Batteries - 6.60 tons
Tires - 17.50 tons
Electronics/Computer Equipment - 142.45 tons

Misc. Supplies - 908.34 tons
Frying Grease - 484.44 tons
Food Composting - 176.96 tons

For Non-MRA Materials:
Antifreeze - 17.76 tons
Concrete - 211.92 tons
Construction & Demolition Debris - 329.23 tons
Motor Oil - 17.76 tons
Scrap Metal - 165.29 tons
Tree Stumps - 210.02 tons
Furniture/Textiles - 4.00 tons
Copper and Brass - 1.8 tons

☒ **Hazardous Waste/Toxic Use Reduction**

Through a variety of outreach programs, the Department of Environmental Safety has successfully helped faculty and staff across campus reduce hazardous waste and create safer laboratories. Laboratory personnel have helped in the effort by using innovative strategies and technologies such as microscale chemistry, digital x-rays, green chemicals, and by exchanging mercury thermometers for non-mercury products. Campus hazardous waste has generally trended downwards with an increase in 2008. Data is tracked as total pounds hazardous waste/1,000 conditioned square feet for all campus buildings (NASF- net assignable square feet).
FY 2004 - 18.60
FY 2005 - 13.85
FY 2006 - 11.23
FY 2007 - 10.04
FY 2008 - 12.01

ENERGY

☒ **Energy Efficiency**

The campus has undertaken a number of energy efficiency efforts:

- A Combined Heat and Power Plant was completed in 2003 and was awarded an DOE/EPA Energy Star Award in 2005. The system requires approximately 16 percent less fuel than typical purchased electricity, resulting in a reduction of nitrous oxide, sulfur dioxide, and roughly 53,000 tons of carbon dioxide annually.

- Lighting retrofits made by the Department of Campus Recreation Services are saving 91,500 kWh and $9,900 annually.

- A hallway lighting retrofit is saving approximately 6,600 Megawatt hours annually or $792,000.

- An Energy Service Performance Contract was initiated in 2009 in nine energy intensive buildings. The $20 million project will include an array of energy and water conservation improvements that will result in $30 million in energy savings, nearly 5 million killowatt hours, 2.5 million gallons of water and mitigate 50,000 tons of greenhouse gases over the contract period.

- In 2007, The University adopted LEED Silver as a minimum design standard for new construction and major renovations which was subsequently supported by State legislation. Designing to LEED standards results in greater energy efficiencies in newly constructed buildings and spaces.

TRANSPORTATION

☒ **Employee Commute**

The Department of Transportation Services (DOTS) operates Shuttle-UM, currently a fleet of 62 vehicles that provides on-campus, near-campus, and longer haul commuter service (i.e., "Park and Rides"). Utilization of these services by the campus community has seen triple digit growth in the past few years to more than 2.63 million rides in FY 2009. Three "Park and Ride" routes that serve Burtonsville, Bowie, and Laurel, Maryland in FY 2009 helped university commuters (faculty, staff, and students) avoid 384,016 commuting miles between these Maryland suburbs and the campus.

WATER

☒ **Water Conservation**

The campus is committed to saving water. A number of buildings have incorporated water saving flush and flow fixtures. In 2008, bathroom faucets in the Stamp Student Union were replaced with sensor-driven units to save water, electricity, maintenance costs, and to make bathrooms more hygienic. The 100 new faucets save 1.2 million gallons per year.

Residential facilities has undertaken a program to retrofit dormitory restroom fixtures with more water efficient equipment. The phased replacement project includes water conserving 1.5 gallons per minute (GPM) shower heads, 0.5 GPM restroom faucet aerators, and 1.6 gallons per flush (GPF) toilets with dual flush valves. To date, several buildings have been completed.

☒ **Stormwater Management and Site Design**

The Maryland Cooperative Extension, part of the University's College of Agriculture and Natural Resources, has long provided consultation and support to farmers and land owners across the State about reducing stormwater runoff and improving water quality (http://extension.umd.edu/environment/index.cfm). The Extension service also conducts applied research and provides educational programs in this area.

At the College Park campus, the University installed its first large scale stormwater cistern as part of its renovation of the Washington Quad in 2008. This project included a 10,000 gallon cistern that collects precipitation from 5 dormitory roofs. The water is distributed to nearby planted areas under a computer controlled system. A second stormwater cistern to be used for irrigation has been installed in Knight Hall, the new home for the University's Journalism program. Both projects reduce the need for potable water and reduce stormwater runoff.

The University has researched and installed impervious pavers in selected projects. The pavers are designed to allow for the infiltration of stormwater as compared to traditional paver installation. Additional projects using these materials are currently in design.

In 2007, The University converted a large surface parking lot into a new green space adjacent to the business school. The project involved the removal of an approximately 1 acre lot and the design and construction of a new open space for use by the campus community. This sustainable project both reduced stormwater runoff and created a new open space for the campus community.

The University Golf Course has undertaken several steps to reduce its water use including the use of drought tolerant grasses resulting in reduced watering schedules. The Golf Course is a certified Audubon International Certified Wildlife Sanctuary. The certification has resulted in changes to fertilization, irrigation and insect management practices, thereby reducing the use of chemicals and improved water quality.

GREEN BUILDING

☒ **LEED Gold**

The Camille Kendall Academic Center at the Universities at Shady Grove in Rockville, Maryland was LEED Gold Certified for New Construction in 2007. See http://www.shadygrove.umd.edu/about/SGIII/. Knight Hall at the College Park campus is also currently being built to meet the the LEED Gold Rating System for New Construction. Certification is anticipated in Fall 2009.

OTHER

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The University is engaged in a wide array of programs that support sustainability goals through teaching and the student experience. Many of these initiatives are described in the 2008 Campus Sustainability Report (http://www.sustainability.umd.edu/Campus_Sustainability_Report_2008.pdf). Some of the initiatives include new academic departments and degrees, sponsorship of a national college and university sustainability conference, modification of student orientation and internship opportunities.

In Spring 2009, the University conducted the "Chesapeake Project," a sustainability pilot program for faculty. The Chesapeake Project is a learning community of University of Maryland faculty who are finding unique ways of teaching about sustainability across the disciplines to prepare students to find solutions to the world`s most challenging problems. The name of this initiative, the Chesapeake Project, represents two ideas: (1) that the University of Maryland is joining a network of other colleges and universities that are making strides to integrate sustainability through their own projects (ex. the Piedmont Project at Emory U., the Ponderosa Project at Northern Arizona U., etc.) and (2) that Maryland faculty will use ecological, social, and economic examples from around the Chesapeake region to help our students see the connection between curriculum and place.

Central to the Chesapeake Project is a two-day workshop designed to help University of Maryland faculty integrate sustainability across all academic disciplines. Participants learn about core concepts of environmental, economic, and social sustainability from resource experts who help the participants integrate sustainability into their existing courses. Through these revised courses, students will have the opportunity to explore sustainability through artistic, cultural, historical, mathematical, philosophical, and scientific lenses to gain a more comprehensive understanding of the subject.

The campus is also engaged in a number of research initiatives focused on environmental issues and maintains several research centers that work with a variety of federal and non-federal partners. This includes the Center for Integrative Environemntal Research, the Joint Global Change research Institute, and National Center for Smart Growth, to name a few. These centers primarily focus on sustainable land development and global climate change. Other major research areas include biofuels, energy, material science and natural resources.